UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 6
1445 ROSS AVENUE, SUITE 1200
DALLAS, TX 75202-2733

JUL 16 2009

Mr. James Moore, P.E., Manager
Water Quality Assessment Section (MC-150)
Texas Commission on Environmental Quality (TCEQ)
P.O. Box 13087
Austin, TX 78711-3087

Dear Mr. Moore:

The Environmental Protection Agency (EPA) has completed its technical review of site-specific marine copper criteria, which were submitted to EPA for review and approval. The site-specific marine criteria apply to a portion of Horsepen Bayou. According to §307.4(h)(3) of the 2000 *Texas Surface Water Quality Standards* (TX WQS), Horsepen Bayou is an unclassified, tidally-influenced, perennial water body with a presumed high aquatic life use in the portion where these site-specific marine criteria apply. EPA guidance allows states to develop site-specific criteria for waters for which default water quality criteria may not be appropriate.

Under Texas Pollutant Discharge Elimination System (TPDES) Permit No. 10539, the Clear Lake City Water Authority is authorized to treat and discharge wastewater from the Robert T. Savely Water Reclamation Facility to Horsepen Bayou; thence to Armand Bayou Tidal in Segment No. 1113 of the San Jacinto-Brazos Coastal Basin. A water effects ratio (WER) study was performed (using laboratory water and simulated downstream water consisting of 36% effluent from outfall 001 and 64% receiving stream water) to determine if site-specific water quality criteria for copper would be more appropriate than the state-wide copper criteria.

Our review of the final WER study indicates that the statewide water quality criteria for copper may be adjusted to account for site-specific physical and chemical interactions which mitigate the toxicity of copper to aquatic organisms. The methodology used to determine the site-specific criteria is consistent with EPA's 1994 WER guidance for metals and with the previously-approved WER provision in §307.6(c)(9) of the TX WQS. From the study, final WERs of 2.74 for dissolved copper and 2.71 for total copper were calculated from the geometric mean of three individual WERs derived from toxicity tests conducted on a mysid (*Americamysis bahia)*. EPA previously completed a review of a WER study conducted with EPA's streamlined approach for developing copper WERs. However, this approach requires the use of the greater of the species mean acute value or the results from the tests in laboratory water, in the calculation of the WER. Following the streamlined approach, a WER of 1.19 for dissolved copper was calculated from two individual WERs. The facility chose to conduct an additional round of toxicity tests in order to use EPA's 1994 WER guidance, which does not require the use of the species mean acute value.

Based on our technical review of the final study, the 2000 TX WQS criteria for copper and the resulting WER of 2.74, EPA has determined that a site-specific marine acute water quality criterion of 37 µg/L and a chronic water quality criterion of 9.9 µg/L are approvable. However, in order for EPA to take a formal approval action under §303(c) of the Clean Water Act, fulfillment of the public participation requirements found at 40 CFR Part 25 for this site-specific water quality standards revision is necessary. In order to fulfill these requirements and to complete TCEQ's water quality standards submission, we request that TCEQ submit to EPA a copy of the public notice for this site-specific water quality standards revision, along with any comments received during the public comment period (or documentation that no comments were received). The public participation process may be completed through the permit application process, as noted in §307.6(c)(9) of the TX WQS.

If you should have any questions, please call me at (214) 665-6644 or have your staff contact Diane Evans at (214) 665-6677.

Sincerely,

Philip Crocker
Chief
Watershed Management Section (6WQ-EW)

cc: Michael Pfeil, TCEQ - Water Quality Assessment Section (MC-150)
Phillip Urbany, TCEQ – Wastewater Permitting Section (MC-148)
Debbie Miller, TCEQ – Standards Group (MC-234)